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Département à
La Haye
Division de la
recherche

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SUISSE

CHSP	Eingang	Ablage:	
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B02/194-0 EP

Anmeldung Nr./Application No./Demande n°/Patent Nr./Patent No./Brevet n°.

03405090.6-2119-

Anmelder/Applicant/Demandeur/Patentinhaber/Propriétaire/Titulaire

ALSTOM (Switzerland) Ltd

COMMUNICATION

The European Patent Office herewith transmits as an enclosure the European search report for the above-mentioned European patent application.

If applicable, copies of the documents cited in the European search report are attached.

☒ Additional set(s) of copies of the documents cited in the European search report is (are) enclosed as well.

The following specifications given by the applicant have been approved by the Search Division:

☒ abstract

☒ title

☐ The abstract was modified by the Search Division and the definitive text is attached to this communication.

The following figure will be published together with the abstract:

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REFUND OF THE SEARCH FEE

If applicable under Article 10 Rules relating to fees, a separate communication from the Receiving Section on the refund of the search fee will be sent later.





DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	EP 1 078 996 A (ABB ALSTOM POWER CH AG) 28 February 2001 (2001-02-28) * the whole document * ---	1-9	C23C10/28 C22C19/03 C22C19/05 C23C10/34 C23C10/60 C23C16/04 C23C16/56 C23C10/04 C23C10/02 C23C16/02
X	US 4 041 196 A (BALDI ALFONSO L ET AL) 9 August 1977 (1977-08-09) * examples 4,7,10 * ---	1-9	
X	US 5 783 318 A (PARMLEY CHRISTOPHER D ET AL) 21 July 1998 (1998-07-21) * column 2, line 30-52 * * column 3, line 1 - column 8, line 5 * ---	1-9	
X	EP 1 186 680 A (GEN ELECTRIC) 13 March 2002 (2002-03-13) * paragraphs '0006!', '0017!'-'0023! * ---	1-9	
X	WO 95 35396 A (UNITED TECHNOLOGIES CORP) 28 December 1995 (1995-12-28) * page 5, line 17-22 * * page 18, line 3 - page 19, line 24 * ---	1-9	
X	EP 1 209 247 A (GEN ELECTRIC) 29 May 2002 (2002-05-29) * paragraph '0033!; examples * ---	1-3,5,9	C23C C22C
A	DEEVI S C ET AL: "Nickel and iron aluminides: an overview on properties, processing, and applications" INTERMETALLICS, ELSEVIER SCIENCE PUBLISHERS B.V, GB, vol. 4, no. 5, 1996, pages 357-375, XP004049088 ISSN: 0966-9795 * paragraph '0002! * -----	1-9	
The present search report has been drawn up for all claims			
Place of search MUNICH		Date of completion of the search 9 July 2003	Examiner Brisson, O
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ----- & : member of the same patent family, corresponding document	

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 03 40 5090

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

09-07-2003

Patent document cited in search report			Publication date	Patent family member(s)	Publication date
EP 1078996	A	28-02-2001	EP	1078996 A1	28-02-2001
			US	6471790 B1	29-10-2002
US 4041196	A	09-08-1977	CA	1102184 A1	02-06-1981
			US	RE31104 E	14-12-1982
			US	4154705 A	15-05-1979
			US	4292208 A	29-09-1981
			US	4528215 A	09-07-1985
US 5783318	A	21-07-1998	DE	69514809 D1	02-03-2000
			DE	69514809 T2	21-06-2000
			EP	0774015 A1	21-05-1997
			JP	10502416 T	03-03-1998
			WO	9535396 A1	28-12-1995
EP 1186680	A	13-03-2002	US	6497920 B1	24-12-2002
			BR	0103931 A	21-05-2002
			CN	1343799 A	10-04-2002
			EP	1186680 A2	13-03-2002
			JP	2002194561 A	10-07-2002
			PL	349180 A1	11-03-2002
WO 9535396	A	28-12-1995	DE	69514809 D1	02-03-2000
			DE	69514809 T2	21-06-2000
			EP	0774015 A1	21-05-1997
			JP	10502416 T	03-03-1998
			WO	9535396 A1	28-12-1995
			US	5783318 A	21-07-1998
EP 1209247	A	29-05-2002	EP	1209247 A1	29-05-2002



Bescheid/Protokoll (Anlage)

Communication/Minutes (Annex)

Notification/Procès-verbal (Annexe)

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Anmelde-Nr.:
Application No.: 03 405 090.6
Demande n°:

The examination is being carried out on the **following application documents**:

Text for the Contracting States:

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PT SE SI SK TR LI

Description, pages:

1-9 as originally filed

Claims, No.:

1-9 as originally filed

Drawings, sheets:

1/2-2/2 as originally filed

1. The following documents are referred to in this communication; the numbering will be adhered to in the rest of the procedure:

- D1: EP-A-1 078 996 (ABB ALSTOM POWER CH AG) 28 February 2001 (2001-02-28)
- D2: US-A-4 041 196 (BALDI ALFONSO L ET AL) 9 August 1977 (1977-08-09)
- D3: US-A-5 783 318 (PARMLEY CHRISTOPHER D ET AL) 21 July 1998 (1998-07-21)
- D4: EP-A-1 186 680 (GEN ELECTRIC) 13 March 2002 (2002-03-13)
- D5: WO 95 35396 A (UNITED TECHNOLOGIES CORP) 28 December 1995 (1995-12-28)
- D6: EP-A-1 209 247 (GEN ELECTRIC) 29 May 2002 (2002-05-29)
- D7: DEEVI S C ET AL: 'Nickel and iron aluminides: an overview on properties, processing, and applications' INTERMETALLICS, ELSEVIER SCIENCE PUBLISHERS B.V, GB, vol. 4, no. 5, 1996, pages 357-375, XP004049088 ISSN: 0966-9795

2. Document D1 discloses a method for strengthen grain boundaries of components



Bescheid/Protokoll (Anlage)

Communication/Minutes (Annex)

Notification/Procès-verbal (Annexe)

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Anmelde-Nr.:
Application No.: 03 405 090.6
Demande n°:

made from a Ni-based superalloy. According to D1, a surface diffusion process is applied to a surface of the component, thereby diffusing boron in grain boundaries. The subject-matter of independent claim 1 is therefore not new in the sense of Article 54 EPC. Moreover, all the additional features of dependent claims 2-9 are also known from D1.

3. Moreover, all the documents D2-D6 are also disclosing surface diffusion processes where at least one of boron, hafnium or zirconium is diffused in the grain boundaries of a Ni-based superalloy substrate. Additionally, D7 discloses the general teaching that zirconium, hafnium and boron are well known grain boundary strengthening elements for Ni-based super alloys substrates. Therefore, the subject-matter of claims 1-9 is not considered to fulfill the requirement of patentability of Article 52 EPC.

Extended European Search Report

This application is covered by the extended European search report pilot project at present running within the European Patent Office, applied to all European patent applications filed as first filing and searched on or after 01.07.03. Under this project the EPO issues together with the search report an opinion on whether the application and the invention to which it relates meet the requirements of the EPC. This non-binding opinion is issued free of charge as a service. This opinion may be used as the basis for an informed decision as to whether it is desired to pursue the application further or not.

For further details of this pilot project, the applicant's attention is directed to the Official Journal edition 5/2003. If any further immediate questions or comments arise the EPO Customer Services: +31-70-340 4500 or +49-89-2399 2828 can be contacted.

The examination has revealed that the application or the invention to which it relates appear **not** to meet the requirements of the Convention (see comments on enclosed Form 2906).

If the applicant wishes to continue with this application the examination fee must be paid. Where appropriate amendments can be filed to address the objections raised in the opinion, thus shortening the overall procedure. If no amendments are filed, the opinion will be re-issued as the first official communication under Article 96(2) and Rule 51(2) EPC.

If the examination fee has already been paid and the right to the communication under Article 96(1) EPC has been waived for this application, the first official communication under Article 96(2) and Rule 51(2) EPC will be issued promptly.